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FILE 'USPAT' ENTERED AT 13:59:21 ON 12 AUG 1998

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  *              W E L C O M E   T O   T H E                      *
  *         U. S.   P A T E N T   T E X T   F I L E               *
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=> s electrochemiluminescen?

L1         100 ELECTROCHEMILUMINESCEN?

=> s ECL

L2        4239 ECL

=> s l1 and l2

L3          48 L1 AND L2

=> s l1 and apparatus

        859491 APPARATUS
L4          71 L1 AND APPARATUS

=> s l4 and electrode#

        210008 ELECTRODE#
L5          56 L4 AND ELECTRODE#

=> s binding and l5

        101746 BINDING
L6          37 BINDING AND L5

=> s l6 and domain#

         37221 DOMAIN#
L7            7 L6 AND DOMAIN#

=> d l7 1-7 cit,ab


1.  5,770,369, Jun. 23, 1998, Nucleic acid mediated electron transfer;
Thomas J. Meade, et al., 435/6, 5, 91.1, 91.2, 287.2; 536/23.1, 24.3,
24.33, 25.3, 26.6 [IMAGE AVAILABLE]

US PAT NO:      5,770,369 [IMAGE AVAILABLE]             L7: 1 of 7

ABSTRACT:
The present invention provides for the selective covalent modification of
nucleic acids with redox active moieties such as transition metal
complexes. Electron donor and electron acceptor moieties are covalently
bound to the ribose-phosphate backbone of a nucleic acid at predetermined
positions. The resulting complexes represent a series of new derivatives
that are bimolecular templates capable of transferring electrons over
very large distances at extremely fast rates. These complexes possess
unique structural features which enable the use of an entirely new class
of bioconductors and photoactive probes.
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2. 5,720,922, Feb. 24, 1998, Instrument incorporating **electrochemiluminescent** technology; Ali Ghaed, et al., 422/52; 250/361C; 422/81 [IMAGE AVAILABLE]

US PAT NO: 5,720,922 [IMAGE AVAILABLE] L7: 2 of 7

ABSTRACT:
An **apparatus** as provided for use in carrying out **electrochemiluminescence** test measurements. The **apparatus** includes a fluid container having an inlet for introducing an **electrochemiluminescence** sample fluid and a fluid outlet. The fluid container is composed of a durable, transparent, chemically inert, and electrically nonconductive material. A working **electrode** is disposed to one side of a fluid flow path of the container which has a light transmissive wall opposite the working **electrode**. A counter **electrode** is secured to the light transmissive wall. A first portion of the counter **electrode** is disposed upstream of the working **electrode**, while a second portion of the counter **electrode** is disposed downstream of the working **electrode**.

3. 5,700,427, Dec. 23, 1997, **Apparatus** for carrying out **electrochemiluminescence** test measurements; Ali Ghaed, et al., 422/52; 250/369; 324/71.1; 422/82.05 [IMAGE AVAILABLE]

US PAT NO: 5,700,427 [IMAGE AVAILABLE] L7: 3 of 7

ABSTRACT:
An **apparatus** is taught for carrying out **electrochemiluminescent** measurements which includes a working **electrode** and a temperature sensor. The **electrochemiluminescent** measurements made by the **apparatus** are adjusted based upon the measured temperature.

4. 5,632,956, May 27, 1997, **Apparatus** and methods for carrying out **electrochemiluminescence** test measurements; Ali Ghaed, et al., 422/52; 366/208, 212, 216, 219; 422/64 [IMAGE AVAILABLE]

US PAT NO: 5,632,956 [IMAGE AVAILABLE] L7: 4 of 7

ABSTRACT:
An **apparatus** for agitating an **electrochemiluminescent** test sample in a sample container having a mouth for permitting withdrawal of the **electrochemiluminescent** test sample therefrom and a body extending away from the mouth. The **apparatus** includes a base, a first member movably mounted with respect to the base and including a first engaging mechanism for engaging the body of the sample container at a first position, and a second member fixedly mounted with respect to the base and including a second engaging mechanism for engaging the body of the sample container at a second position between the first position and the mouth thereof. In this **apparatus**, a first motive mechanism is provided for moving the first member so that at least a portion of the sample container adjacent to the first position thereof together with the **electrochemiluminescent** test sample therein is agitated in response to the motion of the first member.

5. 5,624,637, Apr. 29, 1997, **Apparatus** and methods for carrying out **electrochemiluminescence** test measurements; Ali Ghaed, et al., 422/52; 324/71.1; 435/287.1 [IMAGE AVAILABLE]

US PAT NO: 5,624,637 [IMAGE AVAILABLE] L7: 5 of 7

ABSTRACT:
An **apparatus** for conducting **electrochemiluminescence** test measurements consisting of a fluid container having a fluid flow path, a first counter **electrode** positioned within the fluid container directly secured to a transparent mounting block and having an **electrode** surface exposed to fluids within the fluid flow path, a

working **electrode** with an **electrode** surface being displaced from the **electrode** surface of the first counter **electrode** laterally with respect to the flow direction of fluid within the fluid flow path.

6. 5,543,112, Aug. 6, 1996, **Apparatus** and methods for carrying out **electrochemiluminescence** test measurements; Ali Ghead, et al., 422/52; 250/361C; 324/71.1; 422/81 [IMAGE AVAILABLE]

US PAT NO: 5,543,112 [IMAGE AVAILABLE] L7: 6 of 7

ABSTRACT:
An **apparatus** for conducting measurements of **electrochemiluminescence** including a movable sample container support in the form of a carousel having a plurality of spaced apart support positions, an **electrochemiluminescence** testing device, a motor system to move the sample container support in a predetermined sequence, a sample transfer device to transfer sample from containers in the support positions to the testing device, and a detection system to detect the presence of a sample container and to produce an actuation signal based on the detected presence of the sample container.

7. 5,466,416, Nov. 14, 1995, **Apparatus** and methods for carrying out **electrochemiluminescence** test measurements; Ali Ghaed, et al., 422/52; 250/361C, 362, 369; 324/71.1; 422/81, 82.08, 82.09; 435/808 [IMAGE AVAILABLE]

US PAT NO: 5,466,416 [IMAGE AVAILABLE] L7: 7 of 7

ABSTRACT:
An **apparatus** as provided for use in carrying out **electrochemiluminescence** test measurements. The **apparatus** includes a cell to contain an **electrochemiluminescence** sample fluid. A working **electrode** is provided within the cell and is coupled to a supply of electrical energy to apply the same to the sample fluid. A temperature effect adjustment system serves either to adjust a temperature of the **electrochemiluminescent** sample fluid so that it is within a predetermined range, or else adjusts an output signal representing light produced through **electrochemiluminescence** of the sample fluid based on the temperature of the sample fluid.

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=> s binding domain#

        101746 BINDING
         37221 DOMAIN#
L8        2103 BINDING DOMAIN#
                 (BINDING(W)DOMAIN#)

=> s l8(P)electrode#

        210008 ELECTRODE#
L9           1 L8(P)ELECTRODE#

=> d l9 cit,ab
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1. 5,665,585, Sep. 9, 1997, Recombinant production of glucoamylase P in trichoderma; Tuula Torkkeli, et al., 435/203, 69.1, 172.3, 183, 201, 210, 254.6, 256.8, 320.1; 536/23.1, 23.2, 23.74 [IMAGE AVAILABLE]

US PAT NO: 5,665,585 [IMAGE AVAILABLE] L9: 1 of 1

ABSTRACT:
The invention is directed to amino acid and DNA sequences of a unique glucoamylase P that has a high debranching activity, a Trichoderma host cell, transformed with such sequences, the expression of such recombinant glucoamylase P, and the industrial uses for the recombinant enzyme and

hosts transformed therewith.

=> d l9 clm

US PAT NO: 5,665,585 [IMAGE AVAILABLE] L9: 1 of 1

CLAIMS:

CLMS(1)

What is claimed is:

1. A composition comprising purified DNA molecules that have a nucleotide sequence capable of being processed by a Trichoderma host cell to encode a protein, said protein comprising an amino acid sequence selected from the group consisting of:
a. amino acids 1-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13); and
b. amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13);
said DNA molecules also having the sequence of introns IVS1, IVS2 and IVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID NO. 4 (FIG. 13).

CLMS(2)

2. The composition of claim 1, wherein said nucleotide sequence of the DNA encoding said protein comprises the protein encoding sequence of SEQ ID NO. 1 (FIG. 5) or SEQ ID NO. 4 (FIG. 13).

CLMS(3)

3. A recombinant vector comprising a DNA sequence that is capable of being processed by a Trichoderma host cell to encode a protein, said protein comprising an amino acid sequence selected from the group consisting of:
a. amino acids 1-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13); and
b. amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13);
said DNA sequence also having the sequence of introns IVS1, IVS2 and lVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID. NO, 4 (FIG. 13).

CLMS(4)

4. The vector of claim 3, wherein said DNA sequence of the sequence encoding said protein comprises the protein encoding sequence of SEQ ID. NO. 1 (FIG. 5) or SEQ ID NO. 4 (FIG. 13).

CLMS(5)

5. A Trichoderma host cell transformed with a DNA molecule having a nucleotide sequence that is capable of being processed by said Trichoderma host cell to encode a protein, said protein comprising an amino acid sequence selected from the group consisting of:
a. amino acids 1-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13); and
b. amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13);
said DNA molecule also having the sequence of introns IVS1, IVS2 and IVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID NO. 4 (FIG. 13).

CLMS(6)

6. The host cell of claim 5, wherein said DNA sequence of the sequence encoding said protein comprises the protein encoding sequence of SEQ ID NO. 1 (FIG. 5) of SEQ ID NO. 4 (FIG. 13).

CLMS(7)

7. The host cell of claim 5 or claim 6, wherein said host cell is Trichoderma reesei.

CLMS(8)

8. The host cell of claim 5 or claim 6, wherein said DNA sequence contains the native H. resinae glucoamylase P introns and secretion signal.

CLMS(9)

9. The host cell of claim 8, wherein said Trichoderma strain is T. reesei.

CLMS(10)

10. The host cell of claim 5, or claim 6, wherein said DNA encodes a protein that comprises amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or SEQ ID NO. 4 (FIG. 13).

CLMS(11)

11. The host cell of claim 10, wherein said Trichoderma strain is T. reesei.

CLMS(12)

12. The host cell of claim 10, wherein the sequence of said DNA encoding said amino acids is that shown in SEQ ID NO. 1 (FIG. 5) or in SEQ ID NO. 4 (FIG. 13).

CLMS(13)

13. The host cell of claim 12, wherein said Trichoderma strain is T. reesei.

CLMS(14)

14. The host cell of claim 5 or claim 6, wherein said DNA molecule comprises the promoter and terminator regions of a gene from Trichoderma operably linked to said nucleotide sequence.

CLMS(15)

15. The host cell of claim 14, wherein said Trichoderma strain is T. reesei.

CLMS(16)

16. The host cell of claim 14, wherein said promoter or said terminator are from the cbh1 gene.

CLMS(17)

17. The host cell of claim 16, wherein said Trichoderma strain is T. reesei.

CLMS(18)

18. The host cell of claim 5 or claim 6, wherein said DNA molecule is selected from the group consisting of pALK602 and pALK612.

CLMS(19)

19. The host cell of claim 18, wherein said Trichoderma strain is T. reesei.

CLMS(20)

20. The host cell of claim 5 or claim 6, wherein said glucoamylase P sequence is integrated into the chromosome of said Trichoderma.

CLMS(21)

21. The host cell of claim 20, wherein said Trichoderma strain is T. reesei.

CLMS(22)

22. A Trichoderma host cell transformed with DNA encoding amino acids 1-29 of SEQ ID NO. 1 (FIG. 5) or in SEQ ID NO. 4 (FIG. 13).

CLMS(23)

23. The Trichoderma host cell of claim 22, wherein said DNA further comprises DNA encoding, or capable of being processed to encode, amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or as shown in SEQ ID NO. 4 (FIG. 13), operably linked to said DNA encoding said amino acids 1-29.

CLMS(24)

24. The Trichoderma host cell of claim 23, wherein said DNA further comprises the sequence of introns IVS1, IVS2 and IVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID NO. 4 (FIG. 13).

CLMS(25)

25. The culture medium from the fermentation of a Trichoderma host cell that is transformed with a DNA molecule having a molecule sequence capable of being processed by said Trichoderma host cell to encode a protein, said protein comprising an amino acid sequence selected from the group consisting of:

a. amino acids 1-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13); and

b. amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13);

said DNA molecule also having the sequence of introns IVS1, IVS2 and IVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID NO. 4 (FIG. 13).

CLMS(26)

26. A method for producing glucoamylase P, wherein said method comprises expression of said glucoamylase P from Trichoderma, wherein said DNA encoding said glucoamylase P has a DNA sequence encoding, or capable of being processed by said Trichoderma host cell to encode, a protein, said protein comprising an amino acid sequence selected from the group consisting of:

a. amino acids 1-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13); and

b. amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13).

CLMS(27)

27. The method of claim 26, wherein said Trichoderma is T. reesei.

CLMS(28)

28. The method of claim 26, wherein said DNA encoding glucoamylase P is Hormoconis resinae glucoamylase P DNA.

CLMS(29)

29. The method of claim 26, wherein said DNA contains the native H. resinae glucoamylase P introns and secretion signal.

CLMS(30)

30. The method of claim 26, wherein said glucoamylase P DNA encodes a protein comprising amino acids 30-616 as shown in SEQ ID NO. 2 (FIG. 5A) or in SEQ ID NO. 4 (FIG. 13).

CLMS(31)

31. The method of claim 26, wherein the sequence of said glucoamylase P DNA is that shown in SEQ ID NO. 1 (FIG. 5) or in SEQ ID NO. 4 (FIG. 13).

CLMS(32)

32. The method of claim 26, wherein said DNA comprises the promoter and terminator regions of a gene from Trichoderma operably linked to said DNA encoding said amino acid sequence.

CLMS(33)

33. The method of claim 32, wherein said promoter or said terminator are from the cbh1 gene.

CLMS(34)

34. The method of claim 26, wherein said Trichoderma is transformed with a vector selected from the group consisting of pALK602 and pALK612.

CLMS(35)

35. The method of any one of claims 26, 33 wherein said recombinant vector further comprises the sequence of introns IVS1, IVS2 and IVS3 as shown in SEQ ID NO. 4 (FIG. 13), said introns being inserted between exons encoding said amino acids as shown in SEQ ID NO. 4 (FIG. 13).

=> s l5 and l8

L10 0 L5 AND L8

=> s l1 and l8

L11 1 L1 AND L8

=> d l11 cit,ab

1. 5,596,089, Jan. 21, 1997, Oligonucleotide probe and primers specific to bovine or porcine male genomic DNA; David W. Silversides, et al., 536/24.3; 435/6, 91.2, 172.3, 810; 436/501; 536/23.1, 24.1, 24.31, 24.32, 24.33; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 5,596,089 [IMAGE AVAILABLE] L11: 1 of 1

ABSTRACT:
The present invention relates to novel bovine (SEQ ID NO:1) and porcine (SEQ ID NO:2) genomic sequences for the SRY gene along with oligonucleotide primers. The present invention also relates to a method of sexing bovine or porcine tissue by descriminating PCR products obtained by amplification of specific DNA or cDNA sequences of bovine or porcine tissue which is used as a DNA template and wherein two pairs of DNA primers are used for the PCR. The present invention also relates to a method for the genetic manipulation or selection of sexual phenotype in domesticated animals, which comprises using transgenes composed of SRY sequences to cause and control the expression of genetic ablation sequences and genetic switching sequences in undifferentiated and developing gonadal tissues of both XX and XY animals.